

Vermont Mental Health Performance Indicator Project
Agency of Human Services, Department of Health, Division of Mental Health
Weeks Building, 103 South Main Street, Waterbury, VT 05671-1601

MEMORANDUM

TO: Vermont Mental Health Performance Indicator Project
Advisory Group and Interested Parties

FROM: John Pandiani and Stephen Morabito

DATE: November 5, 2004

RE: Hospitalization Before and After Community Care

This week's PIP¹ examines rates of hospitalization for behavioral health care using an analytical approach developed for evaluating community mental health program performance with regard to criminal justice involvement². This approach involves the comparison of hospitalization rates for the year before a year in which community treatment is received to hospitalization rates for the year after the same community treatment year. A statistically significant reduction in hospitalization may be interpreted as an indication of positive program performance.

Anonymous extract from two databases were used in this analysis. The first is the DMH Monthly Service Report (MSR) database that includes basic demographic and clinical information for all individuals served by community programs. The second is the DMH inpatient data set³ that includes basic demographic and clinical information regarding Vermont residents with episodes of hospitalization for behavioral health care in the Vermont State Hospital, the Brattleboro Retreat, and general and veterans' hospitals in Vermont, New Hampshire, Massachusetts, and neighboring counties of New York State. Because the inpatient and community mental health data sets do not share unique person identifiers, Probabilistic Population Estimation⁴ was used to determine the unduplicated number of individuals shared across data sets for the specified time periods.

Rates of hospitalization during 2000 and 2002 were determined for four groups of individuals who received community based services during 2001. These groups include active clients of Community Rehabilitation and Treatment (CRT) programs for adults with serious mental illness, clients of Adult Mental Health Outpatient programs for individuals who are experiencing emotional, behavioral, or adjustment problems, clients of Substance Abuse programs, and individuals who were served by a community program but were not formally assigned to any program.

As you will see, there was a statistically significant decrease in hospitalization rates for three of the four groups of service recipients. Rates of hospitalization for individuals served by CRT programs, the group with the highest rates, decreased from 18% to 14%. Rates of hospitalization for unassigned clients, the group with the second highest rates, decreased from

13% to 10%. Rates of hospitalization for individuals served by Adult Outpatient programs decreased from 7% to 5%. The decrease in hospitalization rates for Substance Abuse clients decreased from 6% to 5%, a statistically marginal change.

We look forward to your comments and your suggestions for future analysis regarding hospitalization outcomes for service recipients. As always, you can reach us at pip@vdh.state.vt.us or 802-241-2638.

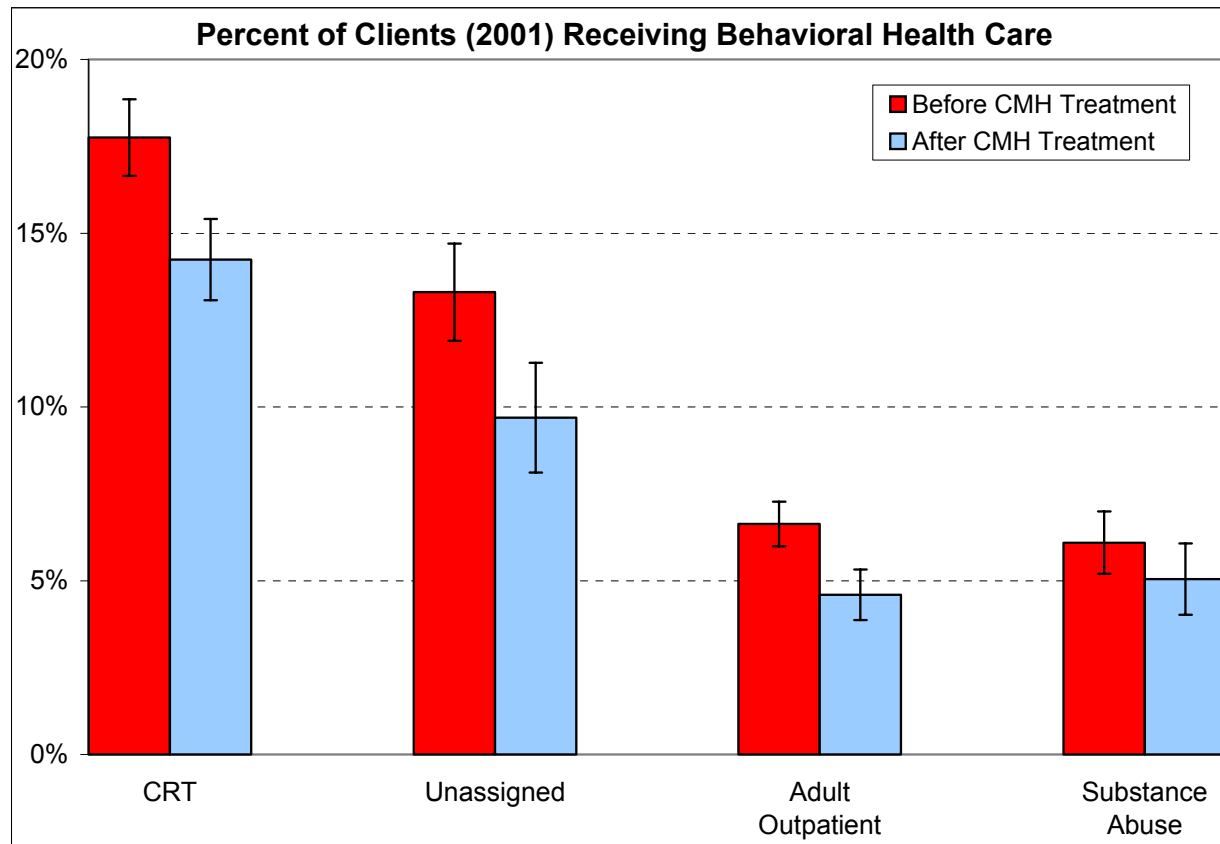
¹ This analysis was begun in response to a request for information from Julie Tessler (Vermont Council of Developmental and Mental Health Services) regarding hospitalization rates for adults served by community programs.

² Examples of the application of this approach to criminal justice involvement are provided by:
Pandiani and Simon (July 23, 2004) Arrest and Incarceration Before and After Adult Mental Health Outpatient Services. VT PIP (<http://www.ddmhs.state.vt.us/docs/pips/2004/pip072304.pdf>)
Pandiani and Simon (August 6, 2004) Arrests and Incarceration Before and After CRT Services VT PIP (<http://www.ddmhs.state.vt.us/docs/pips/2004/pip080604.pdf>)
Pandiani and Simon (August 20, 2004) Arrests and Incarceration Before and After Substance Abuse Treatment Services. VT PIP (<http://www.ddmhs.state.vt.us/docs/pips/2004/pip082004.pdf>)

³ For more information see : Pandiani, Pomeroy, Simon, and Van Vleck (2003) *Inpatient Behavioral Health Care Services Provided To Vermont Residents During 1990-2001*. VT PIP <http://www.ddmhs.state.vt.us/docs/dept/inpatient-data/2001inpatientdatarevised0903.pdf>

⁴ Banks and Pandiani. (2001) Probabilistic population estimation of the size and overlap of data sets based on date of birth. *Statistics in Medicine*. 20:1421-1430.

Hospitalization for Behavioral Health Care Before (CY2000) and After (CY2002) Community Mental Health Treatment (CY2001)



| Program | CMHC Caseload 2001 | CMHC Clients Hospitalized | Percent of CMHC Clients Hospitalized |
|------------------|--------------------|------------------------------|--------------------------------------|
| CRT | 3,436 ± 26 | Before Treatment 610 ± 38 | 18% ± 1.1% |
| | | After Treatment 489 ± 40 | 14% ± 1.2% |
| Unassigned | 2,027 ± 16 | Before Treatment 270 ± 28 | 13% ± 1.4% |
| | | After Treatment 196 ± 32 | 10% ± 1.6% |
| Adult Outpatient | 8,298 ± 65 | Before Treatment 550 ± 53 | 7% ± 0.6% |
| | | After Treatment 381 ± 60 | 5% ± 0.7% |
| Substance Abuse | 5,030 ± 52 | Before Treatment 306 ± 45 | 6% ± 0.9% |
| | | After Treatment 254 ± 52 | 5% ± 1.0% |

Analyses are based on Monthly Service Reports provided by community mental health centers and the Vermont Uniform Hospital Discharge Data Set. Hospital discharge data were supplied by the Vermont Association of Hospitals and Health Systems-Network Services Organization and the Vermont Department of Banking, Insurance, Securities and Health Care Administration. These organizations disclaim responsibility for analyses, interpretations and conclusions, and BISHCA disclaims responsibility for errors in the data.

Because these data sets do not share unique person identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap (with 95% confidence intervals).